

CLAIMS:

1. A circuit arrangement for gaining a 38 kHz stereo subcarrier and a 57 kHz RDS carrier for decoding a stereo signal comprised in a demodulated FM signal and/or an RDS signal comprised in a demodulated FM signal, characterized in that the arrangement comprises a phase-locked loop with a loop filter (1), a voltage-controlled oscillator (2), a first

5 phase detector (3) which receives a reference signal having a reference frequency, and a second phase detector (4), which receives the FM signal, the output signal of the voltage-controlled oscillator (2) being coupled to both phase detectors (3, 4) in a form divided down by means of dividers (6, 9; 10, 11), and the signal fed back to the second phase detector having a frequency of 19 kHz, in that dividers (9, 10, 12) are provided, by means of which the output signal of the voltage-controlled oscillator (2) is divided down and which supply the 38 kHz stereo subcarrier and the 57 kHz RDS carrier, in that a frequency control circuit (8), which is active only upon start-up of the circuit arrangement, compares the two signals applied to the first phase detector (3) and controls the voltage-controlled oscillator (2) in a predetermined frequency range around the reference frequency of the reference signal, in that, after reaching the predetermined frequency range, the frequency control circuit (8) is deactivated and the output signal of the first phase detector (3) is coupled to the loop filter (1), and in that subsequently, if the demodulated FM signal should comprise a 19 kHz pilot, the output signal of the second phase detector (4) is coupled to the loop filter (1).

20 2. An arrangement as claimed in claim 1, characterized in that the input of the loop filter (1) is coupled again to the output signal of the first phase detector (3) when the phase-locked loop unlocks during the operation when the output signal of the second phase detector (4) is coupled to the loop filter (1).

25 3. An arrangement as claimed in claim 1, characterized in that an electronic switch (5) is provided which is controlled by means of a control logic and by means of which the input of the loop filter (1) is coupled to a reference potential upon start-up, to the output of the first phase detector (3) after reaching the predetermined frequency range, and

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subsequently to the output of the second phase detector (4) if the demodulated FM signal should comprise a 19 kHz pilot.

4. An arrangement as claimed in claim 1, characterized in that a pilot detector
5 (13) is provided which compares both input signals of the second phase detector (4).

5. An arrangement as claimed in claim 1, characterized in that at least one of the
dividers (9, 10) is used in common for gaining the stereo subcarrier, the RDS carrier and/or
the input signal of the second phase detector (4) derived from the output signal of the
10 voltage-controlled oscillator (2).

6. An arrangement as claimed in claim 1, characterized in that the voltage-
controlled oscillator (2) has a nominal frequency of 10.944 MHz, and in that the input signal
of the first phase detector (3) derived from the output signal of the voltage-controlled
oscillator (2) is gained by means of a divider (6) which divides the signal applied thereto by
3485.

7. An arrangement as claimed in claim 1, characterized in that the reference
signal has a reference frequency of 75.368/24 MHz.

20 8. An arrangement as claimed in claim 1, characterized in that the first phase
detector (3) is a digital phase detector and the second phase detector (4) is a linear phase
detector.

- 25 9. An arrangement as claimed in claim 1, characterized in that the frequency
control circuit (8) is switched off when, after start-up, the input of the loop filter (1) is
coupled to the output of the first phase detector (3).